Remarks/Arguments

There are no amendments to the specification, claims or drawings.

In the Claims, Claims 1-34 are pending. Claims 11-18 and 24-34 are withdrawn. Claims 19-23 were previously cancelled, without prejudice. Claims 1-10 are rejected. Reconsideration is respectfully requested.

I. Statement of the Substance of an Interview with the Examiner

A telephone interview was conducted on March 29, 2006 between Ernest Karlsen (hereinafter 'Examiner') and the undersigned, J. Michael Johnson, Agent for Applicant. During the telephone interview, an Office Action mailed February 24, 2006 (hereinafter 'Present Action') was broadly discussed. Specifically, a rejection of Claims 1-10 under 35 U.S.C. 112, second paragraph, a rejection of Claims 1-5 under 35 U.S.C., first paragraph, written description, and a rejection under 35 U.S.C. 103(a) were discussed. Additionally, aspects of prior art cited by the Examiner were discussed, including Wan et al., U.S. Patent No. 6,667,682 (hereinafter 'Wan et al.'), Bridges, U.S. Patent No. 4,448,078 (hereinafter 'Bridges'), Kaplan, U.S. Patent No. 2,836,791 (hereinafter 'Kaplan'), and Garshelis, U.S. Patent No. 6,490,934 (hereinafter 'Garshelis'). The interview lasted approximately 2 hours. Interview was electronically recorded by Mr. Johnson with the Examiner's express permission to do so.

Mr. Johnson queried whether the rejection under 35 U.S.C. 112, first paragraph, was due to using the term 'magnetoresistive current sensor' in place of 'the sensor' in the wherein-clause. The Examiner identified the phrase "magnetoresistive current sensor produces" in the wherein-clause as the source of the written description rejection. Mr. Johnson suggested a change that replaces the phrase 'magnetoresistive current sensor produces' with 'dual purpose sensor produces' to overcome the rejection under 35 U.S.C. 112, first paragraph. The Examiner indicated that he probably would not accept this claim amendment at this time to overcome the rejection, expressing concern that the amendment would require a re-examination of the claim. Mr. Johnson and the Examiner agreed that the rejection under 35 U.S.C. 112, first paragraph, would be argued based on the claim language extant in Claim 1 as amended in the Previous Amendment.

The rejection of Claims 1-10 under 35 U.S.C. 112, second paragraph, as being indefinite, was discussed at length. Mr. Johnson questioned the Examiner's rejection and requested that the Examiner specifically identify elements, terms, or limitations in the claims that the Examiner believed one skilled in the art would find indefinite when viewed in light of Applicant's specification. Each claim term was discussed in detail and support for the claim terms contained in Applicant's specification was identified and examined. The Examiner did not provide supporting rationale for the contention that the claims were indefinite. The Examiner essentially maintained that Claims 1 and 6 were just too "nebuluous" to be able to identify why the claim is indefinite.

Regarding the rejection under 35 U.S.C. 103(a), Mr. Johnson noted that the Examiner had not addressed Applicant's arguments in the Previous Amendment regarding a lack of support for *prima facie* obviousness in the Present Action. Mr. Johnson expressed an opinion that at least for a lack of response to Applicant's arguments, the finality of the rejection was premature. The Examiner suggested that a petition could be filed asking for the finality to be withdrawn.

Mr. Johnson asked the Examiner if the omission of any response to Applicant's arguments related to the 35 U.S.C. 103(a) rejection was intentional or inadvertent. The Examiner indicated that the omission was neither intentional nor inadvertent, but maybe had been "oversighted". The Examiner then opened the Previous Amendment and began reading aloud Applicant's arguments beginning at page 11. The reading of Applicant's arguments continued through an entire portion dealing with the obviousness rejection. Mr. Johnson and the Examiner discussed particular points raised by Applicant's argument. For example, details of Applicant's argument regarding motivation to combine/modify as well as aspects of the disclosure of Wan et al. were specifically discussed. No resolution or conclusion was reached as a result of the oral re-reading of Applicant's arguments in the Previous Amendment. The Examiner suggested that the arguments be repeated in the instant Response/Amendment. Mr. Johnson agreed to do so.

II. Remarks/Arguments Regarding Present Office Action

The Examiner rejected Claims 1-10 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the Examiner contended, "[i]t is still not clear what is being claimed in claims 1 and 6 or any other of claims 1-10 for that matter". The Examiner referenced Applicant's Previous Amendment and contended, "[t]he arguments in the amendment ... appear to say all the structure to support functional language is in the preamble, that is 'dual-purpose sensor' is structure to support the functional language". The Examiner further made reference to a hypothetical claim to a "fully loaded Buick" being apparently comparable to that claimed and argued by Applicant. Finally, the Examiner contended, "[t]he only elements positively claimed in claim 1 are a magnetoresistive current sensor and a conductor", and "[t]he only element claimed in claim 6 is a magnetoresistive current sensor". The Examiner concluded, "[t]he structure to support the function may be disclosed as a dual-purpose sensor but it is not being claimed". The Examiner provided no other explanation of the grounds of the rejection under 35 U.S.C. 112 and did not acknowledge Applicant's amendments from the Previous Amendment that were intended to address the Examiner's previous rejection of Claims 1-10 under 35 U.S.C. 112, second paragraph, from a previous Office Action mailed September 20, 2005 (hereinafter 'Previous Action').

Applicant objects to the Examiner's mischaracterization of arguments presented in the Previous Amendment as being directed solely to the structure being a "dual-purpose sensor". Applicant respectfully redirects the Examiner to the Previous Amendment noting that the discussion of the dual-purpose sensor was merely intended to assist the Examiner with understanding the context and definitions pertaining to elements in the claims with respect to "multiplexing". The term "multiplexing" was previously a focus of the Examiner's rejection of Claims 1 and 6 under 35 U.S.C. 112, second paragraph. Applicant amended Claims 1 and 6 in the Previous Amendment to remove reference to "multiplexing" effectively rendering moot the Examiner's previous rejection.

Applicant traverses the instant rejection of Claims 1-10 under 35 U.S.C. 112, second paragraph, on the grounds that the Examiner has failed to properly establish and support a *prima facie* case of indefiniteness. The Examiner has the burden of showing with supportive reasoning and evidence that the claim language, when read in light of the specification, is indefinite to one skilled in the art.

According to 35 U.S.C. 112, second paragraph, "[T]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention". As noted in the MPEP, section 2173, "The primary purpose of this requirement of definiteness of claim language is to ensure that the scope of the claims is clear so the public is informed of the boundaries of what constitutes infringement of the patent". The MPEP further states, "[i]n reviewing a claim for compliance with 35 U.S.C. 112, second paragraph, the examiner must consider ***the claim as a whole*** to determine whether the claim apprises one of ordinary skill in the art of its scope and, therefore, serves the notice function required by 35 U.S.C. 112, second paragraph, by providing clear warning to others as to what constitutes infringement of the patent" (emphasis added). MPEP, §2173.01 *Clarity and Precision*. As noted by the Federal Circuit, "The requirement to 'distinctly' claim means that the claim must have a meaning discernible to one of ordinary skill in the art when construed according to correct principles....Only when a claim remains insolubly ambiguous without a discernible meaning after all reasonable attempts at construction must a court declare it indefinite." *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1366, 71 USPQ2d 1081, 1089 (Fed. Cir. 2004).

> In rejecting a claim under the second paragraph of 35 USC 112, it is incumbent on the examiner to establish that one of ordinary skill in the pertinent art, when reading the claims in light of the supporting specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular areas set out and circumscribed by the claims". *Ex parte Wu*, 10 USPQ 2d 2031, 2033 (B.P.A.I. 1989) (citing *In re Moore*, 439 F.2d 1232, 169 USPQ 236 (C.C.P.A 1971); *In re Hammack*, 427 F.2d 1378, 166 USPQ 204 (C.C.P.A. 1970)).
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> [I]f the claims, read in the light of the specification, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the courts [or the Examiner] can demand no more. *North A. Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 28 USPQ 2d 1333, 1339 (Fed. Cir. 1993).
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> Moreover, it is not the normal function of a claim to disclose the invention, but to point out the features of novelty in the invention as disclosed in the specification and drawing of the application. *Bocciarelli v. Huffman*, 232 F.2d 647, 109 USPQ 385, 388 (C.C.P.A. 1956).

To properly establish and support a *prima facie* case of indefiniteness, the Examiner must specifically identify the limitation(s) that, when interpreted in the light of the specification and from the standpoint of one skilled in the art, does not reasonably define the invention. Thus, it is incumbent on the Examiner to specifically point out the term(s) or limitation(s) in the rejected claim or in the specification that renders the subject claim vague or indefinite to one of ordinary skill in the art. Furthermore, the Examiner must provide reasoned explanation why the skilled artisan would find the identified limitation indefinite. A limitation that is found in Applicant's specification but not recited in a claim does not render the claim indefinite. See for example, *In re Wakefield*, 433 F.2d 897, 164 USPQ 636 (C.C.P.A 1970). Likewise, a functional limitation, one that describes an element in terms of what it does rather than what it is (i.e., its structure), does not render a claim improper or indefinite provided the functional limitation provides a clear indication of the scope of the subject matter embraced by the claim. See for example, *In re Hammack*, 427 F.2d 1378, 166 USPQ 204, 208 (C.C.P.A. 1970); *In re Swinehart*, 439 F.2d 210, 169 USPQ 226 (C.C.P.A. 1971); and MPEP §2173.05(g) *Functional Limitations*.

In rejection Claims 1-10 under 35 U.S.C. 112, second paragraph, the Examiner has failed to specifically identify the limitation(s) that the Examiner considers indefinite. The Examiner contended, "[i]t is still not clear what is being claimed ..." and concluded that, "structure to support the function may be disclosed as a dual-purpose sensor but it is not being claimed". However, nowhere in the Examiner's rejection is there identified a limitation in either Claim 1 or Claim 6 that is the focus of the Examiner's contention of indefiniteness.

Instead, the Examiner seems focused on a preamble recitation of "dual-purpose sensor". The term "dual-purpose sensor" is not a claim limitation, either structural or functional, of the subject claims. Applicant easily could have employed the terms "apparatus", "sensor", or even "sensor for measuring temperature and current", in place of the term "dual-purpose sensor", which seemed so onerous to the Examiner, without changing the meaning or scope of the claim limitations recited in Claims 1 and 6. As such and without more, the Examiner's rejection under 35 U.S.C. 112, second paragraph, lacks proper support and is improper.

Notwithstanding the above, the Examiner provided no evidence that the claim limitations had been interpreted in the light of the specification. There is no indication that an ambiguity exists between that disclosed in Applicant's specification and recited in the subject claims. In particular, the Examiner has not and respectfully cannot point to any term or limitation recited either Claims 1 or 6 that is used in a manner inconsistent with either the prior art or an explicit description or definition in Applicant's specification. Furthermore, the Examiner has not established how the skilled artisan would interpret the language of the subject claims and has not explained why that skilled artisan would not be able to reasonably understand the metes and bounds of the claims from the language therein. A lack of evidence of indefiniteness in terms of Applicant's specification and a lack of a reasoned explanation of why one skilled in the art would find the claim language vague and indefinite further defeat a *prima facie* case of indefiniteness.

In fact, the Examiner's entire reason for rejecting Claims 1-10 under 35 U.S.C. 112, second paragraph, appears to be predicated on a misinterpretation of the requirements of this statute section. In explaining the rejection, the Examiner equated Applicant's claims regarding a "dual-purpose sensor" to claiming "a fully loaded Buick comprising an engine and a transmission wherein stations on a radio are selected by pressing a foot switch", contending that the "fully loaded" feature would not "support the radio and controls therefor", apparently, but not at all clear to Applicant, because those elements (i.e., radio and controls) are recited in a wherein-clause.

Applicant does not intend that the term "dual-purpose sensor" provides structure. As such, the Examiner's contention, "[t]he term 'dual-purpose sensor' is not considered to provide any details for what is being claimed", is respectfully irrelevant. Furthermore, Applicant does not disclose the term "a dual-purpose sensor" as structure to support any function in either of Claims 1 and 6, except that the term describes that being claimed as a whole, as would 'an apparatus', for example.

Claim 1 clearly and positively recites both "a magnetoresistive current sensor having a single pair of terminals" and "a conductor adjacent to the magnetoresistive current sensor, the conductor being exposed to separate current conditions". A magnetoresistive current sensor is structure and a conductor adjacent to the sensor is structure. Similarly, the "separate current conditions", to which the conductor is exposed, are clearly defined in Applicant's specification and would represent clear metes and bounds to the scope of that claimed. There is no ambiguity as to either the structural elements of the claim or the relationship between the structural elements that would lead a skilled artisan to question the metes and bounds of that recited in Claim 1. To contend, as the Examiner appears have done (although not clearly), that the claim is somehow insolubly ambiguous is patently ridiculous, with all due respect. Given Applicant's specification, the skilled artisan not only would understand what a magnetoresistive current sensor is, but also would understand what the current conditions are in the adjacent conductor. Similarly, no ambiguity exists regarding a meaning of "a conductor" or in the conductor being "adjacent" to the magnetoresistive current sensor.

Claim 1 further recites, "wherein under the separate current conditions in the conductor the magnetoresistive current sensor produces both a temperature measurement in a vicinity of the sensor and a current measurement of a current flowing in the conductor using the single pair of terminals". The wherein-clause of Claim 1 essentially characterizes a cooperative relationship between the magnetoresistive current sensor and the conductor exposed to separate current conditions that results in a measurement of both temperature and current (i.e., explains the "dual-purpose" nature of the claimed sensor). No additional structure is necessary to realize aspects of the cooperative relationship recited by the wherein-clause. All necessary structure has already been positively recited.

Without better clarification from the Examiner, Applicant can discern no lack of structure pertaining to realizing the claimed "dual-purpose" sensor, contrary to the Examiner's contention. All of the necessary structure is clearly recited in Claim 1 (i.e., a magnetoresistive sensor and an adjacent conductor that is exposed to separate current conditions). Applicant welcomes some identification by the Examiner of the alleged missing structure. Without such identification, Applicant respectfully submits that the rejection of at least Claim 1 under 35 U.S.C. 112, second paragraph, is without merit.

Claim 6 clearly and positively recites both "a magnetoresistive current sensor having a single pair of terminals" and "a current flowing adjacent to the magnetoresistive current sensor". As with Claim 1, the recitation of "a magnetoresistive current sensor" represents definite and unambiguous structure. Similarly, the positively recited "current" is structure. Current (moving charge) meets all definitions of structure and thus may not simply be ignored by the Examiner. There is no ambiguity as to either the structural elements (i.e., a magnetoresistive current sensor and an adjacent flowing current) of the claim or the relationship between the structural elements recited in the claim that would lead a skilled artisan to question the metes and bounds of that recited in Claim 6. To contend as the Examiner appears to have done (although not clearly), that Claim 6 is insolubly ambiguous is again wholly without merit. As discussed above for Claim 1, given Applicant's specification, the skilled artisan not only would understand what a magnetoresistive current sensor is but also would understand the clear meaning of "current flowing adjacent" thereto.

Claim 6 further recites, "wherein both a temperature measurement in a vicinity of the magnetoresistive current sensor and a current measurement of the current adjacent to the magnetoresistive current sensor are produced from separate resistance measurements made across the single pair of terminals, the separate resistance measurements being associated with separate current conditions of the adjacent current under which the resistance measurements are made". Once again, the wherein-clause of Claim 6 essentially characterizes a cooperative relationship between the magnetoresistive current sensor and the flowing current that results in a measurement of both temperature and current (i.e., explains the "dual-purpose" nature of the claimed sensor). No additional structure is necessary to realize the aspects of the cooperative relationship recited in the wherein-clause. All necessary structure has been positively recited in Claim 6.

As with Claim 1 discussed above, Applicant can discern no lack of structure in Claim 6 pertaining to realizing the claimed "dual-purpose" sensor, as alleged by the Examiner. All of the necessary structure is clearly recited in Claim 6 (i.e., a magnetoresistive sensor and an adjacent flowing current). Applicant welcomes some identification by the Examiner of the alleged missing structure in Claim 6. However, Applicant reminds the Examiner that an alleged omitted element or limitation does not render a claim indefinite. *In re Wakefield*, cited *supra*.

Claims 2-5 and 7-10 are dependent from and include all of the limitations of base Claims 1 and 6, respectively. The Examiner's rejection of Claims 1 and 6 are based on allegations regarding the base claims. Therefore, the discussion above with respect to Claims 1 and 6 applies equally to Claims 2-5 and 7-10.

In light of the above discussion, the Examiner's rejection clearly lacks essential support for *prima facie* indefiniteness under 35 U.S.C. 112, second paragraph. Therefore, the rejection of Claims 1-10 under 35 U.S.C. 112, second paragraph, is unsupported by facts in evidence and ***must be withdrawn***.

The Examiner rejected Claims 1-5 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. In particular, the Examiner contended, "There is no original disclosure that the magnetoresistive current sensor ***by itself*** produces a temperature measurement or a current measurement as now claimed" (***emphasis*** added). Applicant infers from the Examiner's reasons for rejecting and pursuant to the above-discussed telephone interview, that the phrase "magnetoresistive current sensor produces" in previously amended Claim 1 is the primary source of the Examiner's rejection for lack of written description.

Applicant traverses the rejection of Claims 1-5 under 35 U.S.C. 112, first paragraph, written description on the grounds that the Examiner has not and cannot establish and support a *prima facie* case of insufficient written description. In particular, nowhere in Claim 1, as previously amended, is it stated, "the magnetoresistive current sensor ***by itself*** produces a temperature measurement or a current measurement", contrary to the Examiner's contention (***emphasis*** added). The Examiner is admonished not to read into Applicant's claims more than what is actually recited and supported by Applicant's specification. *In re Wakefield*, cited *supra*. Also see *In re Prater*, 415 F.2d 1393, 162 USPQ 541, 550 (C.C.P.A. 1969). It is respectfully submitted that sufficient written description to support the claims is provided by Applicant's specification and drawings, as originally filed.

Applicant respectfully reminds the Examiner that when considering the written description requirement, the "issue generally involves the question of whether the subject matter of a claim is supported by [conforms to] the disclosure of an application as filed". MPEP §2163.01 *Support for the Claimed Subject Matter in*

Disclosure. The central question of written description is, "does the description clearly allow persons of ordinary skill in the art to ***recognize*** that he or she [the inventor] invented what is claimed" (***emphasis*** added). *In re Gosteli*, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989). Additionally, the "written description" requirement of 35 U.S.C 112 is ***separate and apart from and should not be confused with*** a requirement that Applicant provide an enabling disclosure. See MPEP §2163 (I) *General Principles Governing Compliance with the "Written Description" Requirement for Applications* ("This [written description] requirement is separate and distinct from the enablement requirement"). Also see *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1560, 19 USPQ2d 1111, 1114 (Fed. Cir. 1991).

"[T]o satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed". MPEP §2163.02 *Standard for Determining Compliance with the Written Description Requirement.* According to MPEP 2163.02, possession of the claimed invention may be shown, "by describing the ***claimed invention with all of its limitations*** using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention" (***emphasis*** added). Also see *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). The description contained in the specification must describe the invention as claimed but need not enable the claim to meet the "written description" requirement. Moreover, "[s]atisfaction of the 'written description' requirement does not require in haec verba antecedence in the originally filed application". *Staehelin v. Secher*, 24 USPQ 2d 1513 (B.P.A.I. 1992). In other words, literal support for the claimed invention is not required, "if the originally filed disclosure would have conveyed to one having ordinary skill in the art that an appellant [or applicant] had possession of the concept of what is claimed". *Ex parte Parks*, 30 USPQ 2d 1234 (B.P.A.I. 1994).

Regarding Applicant's Claim 1, the Examiner is respectfully directed to Applicant's specification, as filed, beginning at Page 3, line 30, Applicant discloses,

> The dual-purpose sensor 100 comprises a ***magnetoresistive (MR) current sensor 110 having a pair of terminals 112, 113*** associated with or extending from the MR current sensor 110. The MR current sensor 110 is

> multiplexed by controlling a ***state or condition of a current 104 flowing in a conductor 102 adjacent to the MR current sensor 110***. The condition of the current 104 is controlled, such that the current 104 either takes on an *a prior* known value or an unknown value. When the current 104 having the *a prior* known value is flowing in the adjacent conductor 102, ***the dual-purpose sensor 100 produces a temperature measurement***. When the current 104 having the unknown value is flowing in the adjacent conductor 102, ***the dual-purpose sensor 100 produces a current measurement of the current 104***. Thus according to the present invention, multiplexing the MR current sensor 110 of the dual-purpose sensor 100 by controlling the current condition enables measurements by the dual-purpose sensor 100 to yield both a temperature measurement in a vicinity of the sensor 100 and a current measurement of an unknown value of the current 104 in the adjacent conductor 102. (***emphasis*** added)

Thus, at least in the passage cited above, Applicant's specification provides literal written description of, "a magnetoresistive current sensor having a single pair of terminals", and "a conductor adjacent to the magnetoresistive current sensor, the conductor being exposed to separate current conditions", as recited in Claim 1. Additionally, there is literal support at least in the above-referenced passage for, "wherein under the separate current conditions in the conductor" the sensor "produces both a temperature measurement in a vicinity of the sensor and a current measurement of a current flowing in the conductor using the single pair of terminals", as is further recited in Claim 1.

Applicant respectfully submits that written description support also exists for "the magnetoresistive current sensor" producing the temperature and current measurements. In particular, the only element recited in Claim 1 having a characteristic that is proportional to either temperature or current is the "the magnetoresistive (MR) current sensor 110". Therefore, one skilled in the art would immediately grasp that the written description of dual-purpose sensor producing "a temperature measurement" and "a current measurement" is equivalent to saying that "the magnetoresistive current sensor produces" the measurements. Furthermore, at Page 4, lines 16-18, of Applicant's specification, Applicant discloses, "both the temperature measurement and the current measurement are ***produced*** by measurements taken across the single pair of terminals 112, 113 of the MR current sensor 110" (***emphasis*** added). Thus, the reference in Applicant's specification to "produced" as related to the dual-purpose sensor is clearly and directly linked to the magnetoresistive current sensor. There should be no question in the mind of the skilled artisan regarding what is producing the measurement or how the measurement is produced.

For additional support for the written description of Claim 1, Applicant respectfully further directs the Examiner to Applicant's specification, as originally filed, at Page 4, line 18 through Page 6, line 4. The magnetoresistive current sensor is further defined and discussed at least at Page 6, line 14 through Page 9, line 9. Yet additional written description is found in Figure 1, 2, 3, 4, and 5, and the portions of Applicant's specification in which the figures are discussed.

Hence, sufficient written description to support at least Claim 1 is provided by Applicant's specification, as originally filed, to enable one skilled in the art to recognize that Applicant was in possession of the invention at the time the application was filed. Applicant further submits that similar written description support is provided by Applicant's specification for at least Claims 2-5. Therefore, the rejection of Claims 1-5 under 35 U.S.C. 112, first paragraph, written description, ***must be withdrawn*** for lack of proper support for a *prima facie* case. Reconsideration and withdrawal of the rejection of Claims 1-5 under 35 U.S.C. 112, first paragraph, are respectfully requested.

Applicant further reminds the Examiner that, "the examiner has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in [the] specification disclosure a description of the invention". *Ex parte Sorenson*, 3 USPQ 2d 1462, 1463 (B.P.A.I. 1987) (citing *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (C.C.P.A 1976). Thus, if the Examiner elects to maintain the rejection in light of Applicant's arguments above, the Examiner must provide such ***evidence or reasons*** why Applicant's specification disclosure does not ***describe*** the invention as claimed to a person skilled in the art. Moreover, Applicant requests that such evidence or reasons be provided in writing. Applicant submits that the "reasons" alleging lack of written description provided by the Examiner in the Present Action are respectfully unsupported and moot with respect to the written description requirement (see discussion above).

The Examiner rejected Claims 1-10 under 35 U.S.C. 103(a) as being unpatentable over Wan et al. in view of Bridges, Kaplan and Garshelis. In particular, the Examiner contended, "Wan et al show a magnetoresistive device that is used to measure magnetic fields and temperature ... but does not show switching between temperature and magnetic field measurements and ... measurement of current"; "Bridges shows switching between temperature and strain gage [*sic*] measurements"; "Kaplan shows the equivalence of current and magnetic field measurements"; and "Garshelis shows that strain gages [*sic*], as in Bridges, and magnetoresistive elements, as in Wan et al, share common features such as change of resistance due to external effects and temperature dependence". The Examiner concluded that it would have been obvious to "have adapted the switching technique of Bridges to the apparatus of Wan et al ... because one of ordinary skill in the art would realize that so doing would lead to a simpler and more economic structure".

Applicant again respectfully traverses the rejection under 35 U.S.C. 103(a) on the grounds that the Examiner failed to establish and properly support a *prima facie* case of obviousness with respect to Wan et al., Bridges, Kaplan, and Garshelis (hereinafter 'the references'). Specifically, the Examiner does not show with respect to the rejected claims one or more of 1) "some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings"; 2) "a reasonable expectation of success" in modifying or combining the teachings of the references; and 3) that the prior art references "teach or suggest all the claim limitations", as required by the courts. MPEP, Section 2142, *Establishing a Prima Facie Case of Obviousness*. Moreover, the Examiner failed to establish that the teaching or suggestion to make the claimed combination and the reasonable expectation of success are both "found in the prior art, and **not** based on applicant's disclosure". *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir.1991) (***emphasis*** added). In short, the Examiner's reasons for rejecting Claims 1-10 respectfully fail to meet even the minimum requirements necessary for establishing and maintaining *prima facie* obviousness with respect to the references.

As is clearly stated in the MPEP, "[o]bviousness can ***only*** be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation ***to do so*** found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art" (***emphasis*** added). MPEP

§2143.01 *Suggestion or Motivation to Modify the References.* As reasoned by the Federal Circuit,

> "When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See e.g., McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) ("the central question is whether there is reason to combine [the] reference," a question of fact drawing on the Graham factors).
>
> "The factual inquiry whether to combine references must be thorough and searching." Id. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions, and cannot be dispensed with. See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc., 229 F.3d 1120, 1124-25, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000) ('a showing of a suggestion, teaching, or motivation to combine the prior art is an 'essential component of an obviousness holding'") (quoting C.R. Bard, Inc., v. M3 Systems, Inc., 157 F.3d 1340, 1352 48 USPQ2d 1225, 1232 (Fed. Cir. 1998))". *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

Additionally, according to the Federal Circuit, " 'teachings of references can be combined only if there is some suggestion or incentive to do so' "(emphasis in original). *In re Fine*, 837, F.2d 1071, 1075, 5 USPQ2d 1596, 1600 (Fed. Cir. 1988) (quoting *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). "[E]ven when the level of skill in the art is high, the Board [or the Examiner] must identify specifically the principle, known to one of ordinary skill, ***which suggests the claimed combination***. In other words, the Board [or the Examiner] must ***explain the reasons*** one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious" (***emphasis*** added). *In re Rouffet*, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

Thus, a motivation to combine is an ***essential element*** in establishing *prima facie* obviousness. For a motivation to be legitimate, there ***must be a finding*** that a 'teaching, suggestion, or motivation' to combine ***exists***. There ***must be objective evidence of record*** from the prior art in light of the motivation both to support the Examiner's selection of the particular references and to support combining the elements or teaching thereof as proposed by the Examiner. The Examiner ***is required*** by way of reasoned explanation ***to specifically identify the principle*** known by the skilled artisan '***that suggests the claimed combination***'. The Examiner may not simply dispense with providing such evidence and reasoning in presenting the motivation to combine.

Moreover, "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art ***also suggests the desirability*** of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)" (***emphasis*** added). MPEP §2143.01, cited *supra*. For a motivation to combine/modify to be legitimate and therefore, be employed to support a *prima facie* case of obviousness, there must be "evidence that 'a skilled artisan, ***confronted with the same problems as the inventor*** and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed'". *Ecolochem, Inc. v. Southern Calif. Edison Co.*, 227 F.3d 1361, 1375, 56 USPQ2d 1065, 1075 (Fed. Cir. 2000) (quoting *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998)) (***emphasis*** ***is*** added). Therefore, in addition to providing evidence from the prior art to support selecting and combining, the Examiner is ***required*** to establish and provide ***evidence*** to support the ***desirability*** of the combination in light of the ***problem or problems*** that faced ***the inventor***.

Regarding Wan et al., Bridges, Kaplan, and Garshelis, the Examiner merely states without evidentiary support that one of ordinary skill would be motivated to combine the references because such a skilled artisan, "would realize that so doing would lead to a simpler and more economic structure" (hereinafter 'Examiner's motivation'). However, the Examiner has not and respectfully cannot point to any portion of the respective disclosures of Wan et al., Bridges, Kaplan, and Garshelis wherein such a motivation is explicitly expressed. Thus, the Examiner's motivation to combine/modify the references is clearly not found 'in the references themselves'.

Furthermore, the Examiner provided ***no extrinsic evidence to support*** a contention that a teaching, suggestion, or motivation ***not found explicitly*** in the cited references was ***either present implicitly*** in that taught by the references (which in this instance, clearly it is not) ***or*** was ***in the knowledge generally available to one of ordinary skill in the art***. Specifically, ***the Examiner cited nothing*** (i.e., no extrinsic evidence) beyond the references themselves in support of the Examiner's motivation. Therefore, the Examiner ***is not*** relying on implicit teachings or general knowledge of the skilled artisan. As such, the Examiner respectfully cannot contend that the Examiner's motivation regarding combining the references are "found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art", as required by the courts to support *prima facie* obviousness. *In re Kotzab,* 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000).

In addition, the Examiner's motivation lacks that necessary to qualify as a legitimate or supported motivation to combine/modify according to the courts. In particular, the Examiner offered no explanation regarding how the proposed motivation would lead the skilled artisan to select and combine the references as relied upon by the Examiner for the subject rejection. No explanation is presented regarding "the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them [thereby rendering] the claimed invention obvious". *In re Rouffet,* cited *supra.* In short, the Examiner's motivation fails to address ***why*** a skilled artisan, ***without*** knowledge or benefit of Applicant's teachings, would make the ***specific choice*** to combine Wan et al., Bridges, Kaplan and Garshelis as opposed to some other combination of references. In addition, the Examiner's motivation provides no insight into why one skilled in the art would have found it obvious to make the particular and specific modification of the relevant teachings of Wan et al., Bridges, Kaplan and Garshelis that the Examiner suggests. Thus, the Examiner's motivation fails to address why the skilled artisan would have been motivated to combine/modify Wan et al., Bridges, Kaplan and Garshelis.

Moreover, the Examiner failed to establish, or for that matter, even attempt to establish, that the prior art or the skilled artisan with ***no knowledge of the claimed invention*** would have: (a) recognized the desirability of the combination/modification proposed by the Examiner, or (b) selected the specific elements from the cited prior art references for combination/modification, as suggested by the Examiner, when confronted with the same problem faced by the inventor. In fact, the Examiner did not explicitly or implicitly consider the problem(s) faced by the inventor as motivation for the combination/modification proposed by the Examiner. Similarly, the Examiner has not identified specifically the principle of or explained the reasons why the skilled artisan would have been motivated to select and combine the references. *In re Rouffet*, cited *supra*. Hence, the Examiner simply has not provided a legitimate motivation to combine the cited references in support of a *prima facie* case of obviousness.

An absence of a legitimate or supported motivation to combine Wan et al., Bridges, Kaplan, and Garshelis defeats a *prima facie* case of obviousness with respect to at least Claims 1-10. Furthermore, given the lack of a supported motivation to combine the respective references, any consideration regarding what the respective combination might or might not disclose is rendered moot.

Notwithstanding the lack of a supported motivation to combine/modify, the combination of Wan et al., Bridges, Kaplan, and Garshelis also fails to disclose or suggest ***all*** of the claim limitations of at least Claims 1-10. In particular, the combination of the references fails to disclose or suggest all of the limitations recited separately in either Applicant's base Claim 1 or Applicant's base Claim 6.

In particular, Wan et al. disclose a magnetoresistive sensor that may be used to determine "a temperature sensor reading and a magnetic sensor reading" (Wan et al., Abstract, lines 6-7), all such magnetoresistive sensors disclosed by Wan et al. require at least two pair of terminals to perform as disclosed. For example, consider the sensor configuration disclosed by Wan et al. in Figure 5 and described at Col. 7, lines 1-28. Wan et al. specifically disclose, "a first voltage measurement (Vout5) is taken across the sensing terminals 312 and 314, and provides a magnetic field sensor reading" (Wan et al., Col. 7, lines 7-9). Wan et al. further disclose, "a second voltage measurement (Vout6) is taken across the sensing terminals 310 and 314 ... the Vout6 value is employed to determine a temperature sensor reading" (Wan et al., Col. 7, lines 16-19). As such, Wan et al. neither discloses nor suggests that the magnetoresistive sensor that measures temperature and magnetic field comprises, "a magnetoresistive current sensor having a single pair of terminals ... wherein ... the magnetoresistive current sensor produces both" measurements "using the single pair of terminals", as recited in Applicant's independent Claim 1 and variously recited in independent Claim 6.

Similarly, a strain gauge sensor 'R_G' disclosed by Bridges comprises three terminals. Switching according to Bridges involves employing a "switching unit 10" to switch between pairs of the three terminals (i.e., wiring leads a, b and c) (see for example, Bridges, Col. 2, lines 40-65). In particular, according to Bridges, static strain is measured by connecting the "three wire leads a, b and c" to a "Wheatstone Bridge 12" through the "switching unit 10" (see Bridges, Col. 3, lines 22-37). Temperature measurements are made using only wire leads b and c, which are connected together to form a thermocouple. Thus, Bridges clearly discloses using or switching at least two separate sets of terminals (i.e., a, b, and c or b and c) to make strain and temperature measurements. Similarly, both of Kaplan and Garshelis fail to disclose "a magnetoresistive current sensor having a single pair of terminals" that measures temperature and current using "the single pair of terminals", as recited in Applicant's independent Claims 1 and 6.

In the Present Action, the Examiner contended, "[w]ith regard to Applicant's two terminal argument it is noted that all magnetoresistors have two terminals". Applicant respectfully refers the Examiner to the preceding discussion of the references. In particular, Applicant does not argue that individual magnetoresistors disclosed by the references have more than two terminals. Instead, Applicant argues that the references fail to disclose "using the single pair of terminals" to make "***both*** a temperature measurement … and a current measurement", as claimed by Applicant. All of the references explicitly require using more than a single pair of terminals and thus fail to disclose a limitation of Applicant's Claim 1.

Moreover, none of the references discloses or suggests "a conductor adjacent to the magnetoresistive current sensor", as recited in Applicant's Claim 1. Furthermore, there is no disclosure or suggestion in any of the references of "the conductor being exposed to ***separate current conditions***", as defined by Applicant's specification and further recited in Claim 1. Similarly, neither Wan et al., Bridges, Kaplan, nor Garshelis disclose or suggest that temperature and current measurements are produced "under the separate current conditions in the conductor", as claimed by Applicant. In short, whether considered separately or together, the references fail to disclose or suggest ***all of the claim limitations*** of Applicant's Claim 1.

Regarding Claim 6, none of the references discloses or suggests "a current flowing adjacent to the magnetoresistive current sensor" or "separate current conditions of the adjacent current", as recited therein. Furthermore, none of the references discloses or suggests, "both a temperature measurement in a vicinity of the magnetoresistive current sensor and a current measurement of the current adjacent to the magnetoresistive current sensor are produced from separate resistance measurements made across the single pair of terminals", as further recited in Applicant's Claim 6. Hence, the references fail to disclose or suggest all of the limitations recited in Claim 6.

Therefore, the combination of Wan et al., Bridges, Kaplan, and Garshelis fails to disclose or suggest all of the limitations of each of Applicant's Claims 1 and 6, as further required by the courts for establishing and supporting *prima facie* obviousness. See *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

For the reasons set forth above, a *prima facie* case of obviousness by the combined teachings of Wan et al., Bridges, Kaplan, and Garshelis with respect to at least Claims 1 and 6 is defeated. Claims 2-5 are dependent from and include all of the limitations of independent Claim 1. Claims 7-10 are dependent from and include all of the limitations of independent Claim 6. For at least the same reasons given above for Claims 1 and 6, the *prima facie* case of obviousness of the dependent Claims 2-5 and 7-10 is similarly defeated. *In re Royka*, cited *supra*.

As discussed above, the Examiner's rejection under 35 U.S.C. 103(a) clearly lacks proper evidentiary support for establishing and maintaining a *prima facie* case of obviousness according to the courts. As such, the rejection of Claims 1-10 under 35 U.S.C. 103(a) for being obvious in light of Wan et al., in view of Bridges, Kaplan, and Garshelis ***must be withdrawn***. Reconsideration and withdrawal of the rejection of Claims 1-10 under 35 U.S.C. 103(a) as obvious over the combination of Wan et al., Bridges, Kaplan, and Garshelis are respectfully requested.

It is well established that, "the examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability" and "[i]f examination at the initial stage ***does not*** produce a *prima facie* case of unpatentability, then without more the applicant is entitled to grant of the patent" (***emphasis*** added). *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Applicant reminds the Examiner that withdrawn Claim 11, drawn to a non-elected species, is dependent from generic Claim 6. As such, since a *prima facie* case of unpatentability has not been established with respect to generic Claim 6, Applicant respectfully requests rejoinder and consideration of Claim 11.

In summary, Claims 1-34 are pending and Claims 11-34 have been withdrawn. Claims 1-10 were rejected. In light of the discussion hereinabove, Applicant respectfully submits that at least Claims 1-10 are in condition for allowance. Applicant respectfully requests that Claims 1-10 be allowed and that Claim 11 be rejoined and considered, such that the application may be passed to issue at an early date.

Should the Examiner have any questions regarding the above, please contact the undersigned, J. Michael Johnson, Agent for Applicant, at telephone number (775) 849-3085.

Respectfully submitted,
RANDY K. RANNOW ET AL.

By:
J. Michael Johnson
Attorney/Agent for Applicant(s)
Registration No. 37,856

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I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office on the date shown below.

J. Michael Johnson — 4/7/06
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